UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

May 1965

PART II–Fishing Information*

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

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*Part 1 - "Fishery Products Production and Market Data" is issued by the Bureau of Commercial Fisheries, Market News Service, Post Office Building, San Pedro, California

TEMPERATE TUNA FORECAST FOR 1965

This year, the staff of the Tuna Forecasting Program of the Bureau of Commercial Fisheries, La Jolla, has prepared the fifth in a series of annual predictions for the temperate tuna fishery off the Pacific Coast. During the past year, additional data have been incorporated into the prediction system, and refinements have been added where appropriate.

The ensuing forecast consists of three separate estimates of (1) where, (2) when, and (3) how much tuna may be taken at the beginning of and during the forthcoming season. At the present time, we are limited primarily to making estimates of items (1)-(3) for the southern California offshore region for albacore, and only item (3) for bluefin.

Where: The area that is expected to produce the best albacore fishing in July off southern California is shown in Figure 1. This area has been determined from April temperature and salinity data taken from a depth of 10 meters, and represents the "optimum area" that may produce more than two-thirds of the total July catch. Upwelling has been relatively weak this year in southern California and Baja California, and the albacore may move closer to shore because clear, blue water may extend farther inshore than usual.

When: Open ocean conditions in the region encompassing the usual migration route of albacore reflected considerable warming commencing as early as mid-February. This general warming trend has prevailed through April, and suggests that the shoreward migration may occur earlier than in the last two years. In addition, the waters off Oregon and Washington are beginning to warm noticeably, and suggest that July landings may be near average.

How much: We estimate that June landings in southern California will be above the long-term average of 175,280 pounds. As in previous years, our estimates of total annual albacore and bluefin landings are restricted by the data available to the region south of the U.S.-Mexico border for albacore, and for bluefin in the area to the north of the border. This year, we expect about 12.6 million pounds of albacore will be caught south of the U.S.-Mexico border, and about 8.6 million pounds of bluefin will be taken north of it. These estimates are near the 14-year average landings for both species.

In 1964, our forecast for albacore landings south of the international border exceeded actual landings by only 13 percent, whereas actual bluefin landings were slightly more than half of the predicted amount. The cause for the major discrepancy in the bluefin estimate is most likely attributable to major changes in the fishing fleet. Whereas the albacore fleet has experienced no major changes in composition over the past few years, the bluefin fleet has changed greatly. During the past four years, the addition of most of the converted high seas purse seiners to the bluefin fleet appears to have caused the center of production and fishing effort to be shifted farther south into Baja California offshore waters.

The Bureau of Commercial Fisheries is conducting an early-season survey of the optimum area for albacore by chartering two commercial albacore trollers. These boats put to sea on June 3 and, in conjunction with the California Department of Fish and Game research vessel N. B. Scofield (at sea from May 25 to June 23), will report fishing conditions as they develop. Navy radar picket vessels have been fishing since May 1, and will report albacore catches as they occur. Research vessels at sea and the chartered albacore trollers Tuna Clipper and Native Sun will report to radio station WWD at the following times and frequencies:

Time (PST)	Frequency
0910 and 1910	4415.8 kc
0920 and 1920	8805.6 kc
0930 and 1930	2638 kc
0935 and 1935	2738 kc

In addition to broadcasts from research vessels, radio station WWD, licensed to the Bureau of Commercial Fisheries and located on the campus of Scripps Institution of Oceanography, will broadcast twice daily from June 1 - September 15 on frequency 4415.8 kc at 1000 PST and 1945 PST. Broadcasts will include latest albacore information obtained from research vessels, Navy picket vessels, sea temperatures at selected points, and other information believed useful to albacore fishermen.

Staff, Tuna Forecasting Program
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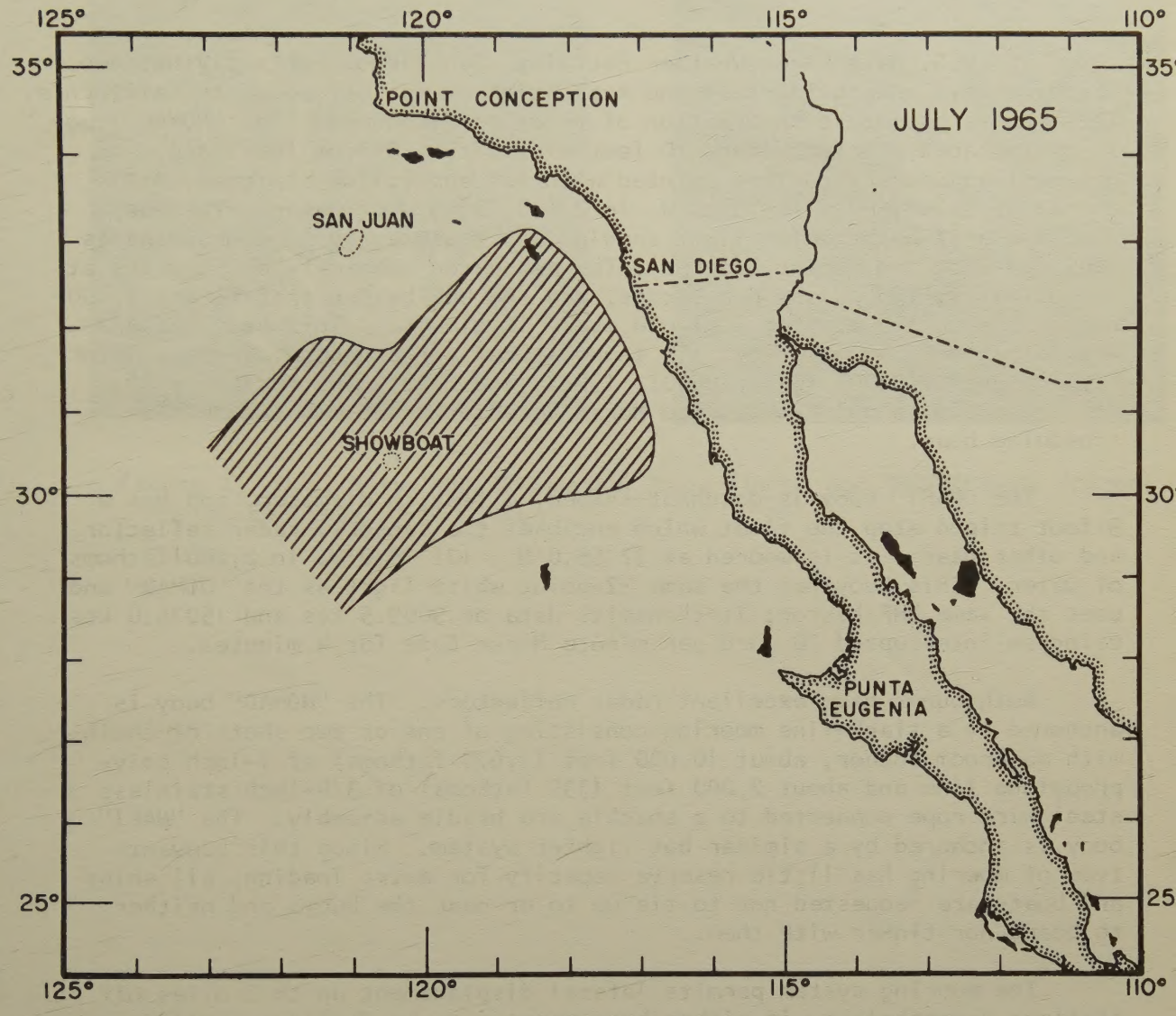

Figure 1. Cross-hatched area delineates the region expected to produce about two thirds of the total July 1965 albacore catch.

WEATHER-OCEANOGRAPHIC BUOYS OFF SOUTHERN CALIFORNIA

The U.S. Navy Fleet Weather Facility, San Diego, currently has two weather buoys undergoing test and evaluation at sea off southern California. These buoys broadcast information of value to fishermen. The "NOMAD" buoy is boat-shaped, 20 feet long, 10 feet wide with a 3-foot freeboard, and has hull and superstructure painted with red and yellow stripes. It is moored at 30°40.5'N., 119°48.0'W. in 2,000 fathoms of water. The buoy displays a 32-point white light showing one flash every 4 seconds and is equipped with two homing beacons. The HF beacon transmits on 5340 kcs at approximately two pulses per second, and the UHF beacon transmits a 1,000-cycle tone on 348 mcs for 1 minute every 10 minutes. This buoy measures wind direction and velocity, air temperature, air pressure, and sea water temperature at 0300Z (GMT), 0900Z, 1500Z, and 2100Z, and transmits 16 words per minute pulse-modulated Morse Code for 2-1/2 minutes on each scheduled hour.

The "NAFI" buoy is doughnut-shaped, 8 feet in diameter, and has a 9-foot tripod atop the float which encloses the sensors, radar reflector, and other gear. It is moored at 32°55.0'N., 121°10.0'W. in 2,000 fathoms of water. This buoy has the same 32-point white light as the "NOMAD" and uses the same UHF beacon; it transmits data on 9009.5 kcs and 15026.0 kcs using an interrupted 20 word per minute Morse Code for 4 minutes.

Both buoys have excellent radar reflectors. The "NOMAD" buoy is anchored by a slack-line mooring consisting of one or two shots of chain with mushroom anchor, about 10,000 feet (1,670 fathoms) of 1-inch polypropylene line and about 2,000 feet (335 fathoms) of 3/4-inch stainless steel wire rope connected to a shackle and bridle assembly. The "NAFI" buoy is anchored by a similar but lighter system. Since this buoyant-type of mooring has little reserve capacity for extra loading, all ships and boats are requested not to tie up to or near the buoys and neither to board nor tinker with them.

The mooring system permits lateral displacement up to 2 miles off station; nevertheless, if either buoy appears to be drifting 3 miles or more off station, this office (telephone San Diego 453-2820, extension 201 or 202) or the Fleet Weather Facility (telephone San Diego 453-6611, extension 375 or 1298) should be notified immediately by radio.

Two more buoys are expected to be moored by the Fleet Weather Facility this fall. The Tuna Resources Laboratory, in cooperation with the U.S. Navy, will keep the commercial fishing community informed as to latest developments in this new field of automatic ocean weather reporting instrumentation.

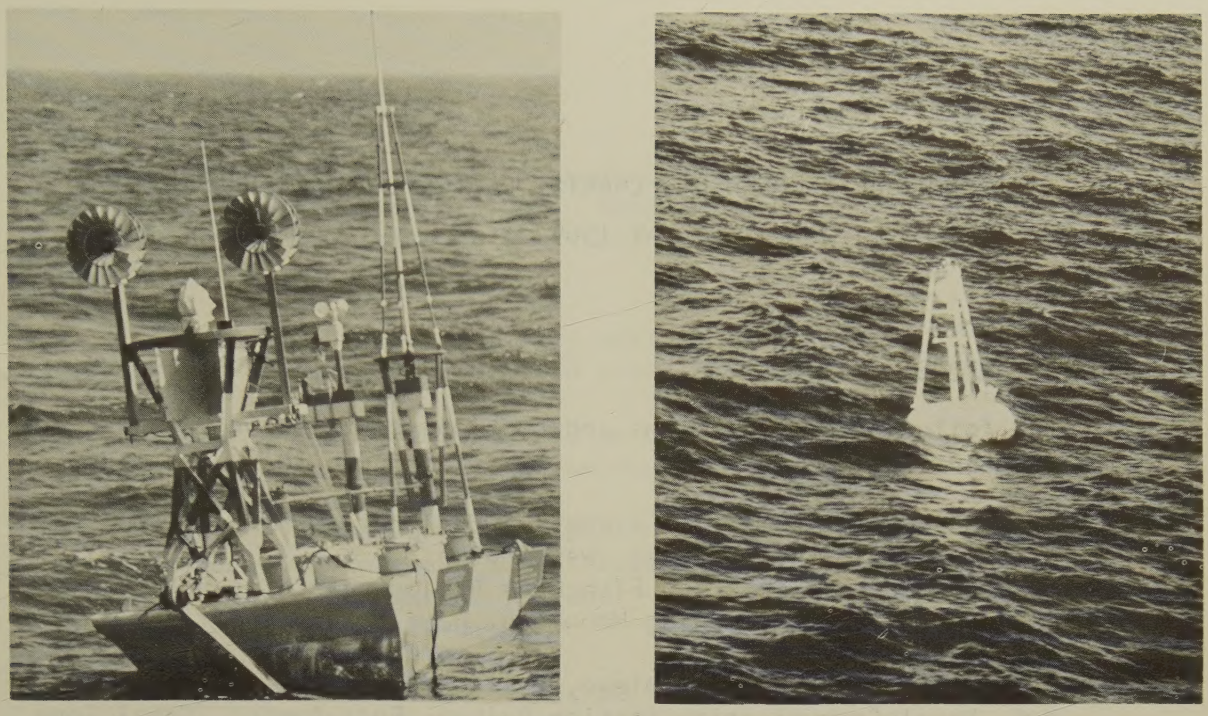

Figure 2. U.S. Navy "NOMAD" weather buoy (left) and "NAFI" buoy (right). Photos courtesy of U.S. Navy.

SEA SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN

MAY 1965

Acknowledgments

The following organizations and stations contributed data for the May 1965 charts:

U.S. Bureau of Commercial Fisheries Exploratory Fishing and Gear Research Base, Seattle, Washington
U.S. Bureau of Commercial Fisheries Biological Laboratories, La Jolla, California; Honolulu, Hawaii, and Seattle, Washington
U.S. Weather Bureau, San Diego, California
U.S. Naval Communication Station Balboa, Fort Amador, Canal Zone
U.S. Weather Bureau Port Meteorological Office, Cristobal, Canal Zone
California Department of Fish and Game R/V N. B. Scofield
Guadalupe Island, Coronado Island, Ensenada, Cedros Island and Almejas Bay by Pedro Mercado of the Universidad Autonoma de Baja California, Ensenada, Mexico
Hopkins Marine Station, Pacific Grove, California by J. P. Balesteri
Inter-American Geodetic Survey by Rene Cortes at Salina Cruz, Mexico; L. A. Peren at Pt. Armuelles, Panama; R. H. Valencia at San Jose, Guatemala; V. E. Castillo at Tumaco, Colombia; G. Tapia at San Cristobal, Galapagos; S. Valenzuela at La Libertad, Ecuador; E. Lopez and E. Guerrero at Talara, Peru; J. Cardenas at San Juan, Peru
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Kelco Company, San Diego, California
Lifeguard Headquarters, Newport Beach, California
Pacific Oceanographic Group, Nanaimo, British Columbia, by H. J. Hollister from observations by T. Collins at Quatsino Lightstation; J. L. Fraser at Cape St. James Light; B. Stuart at Amphitrite Point Light; W. Redlac at Langara Island Light
Scripps Institution of Oceanography, La Jolla, California by Margaret Robinson and Hans Klein
Ships American Enterprise, Independence, Royal Pacific

Charts

Figure 1.--Mean sea surface temperatures (°F) derived from approximately 8000 observations. Squares show temperatures at weather-ship stations. Numerals on shore are temperatures at coastal and light-ship stations.

Figure 2.--Deviation of sea surface temperatures (°F) from long term charts of H.O. 225. Hatched areas are colder than mean.

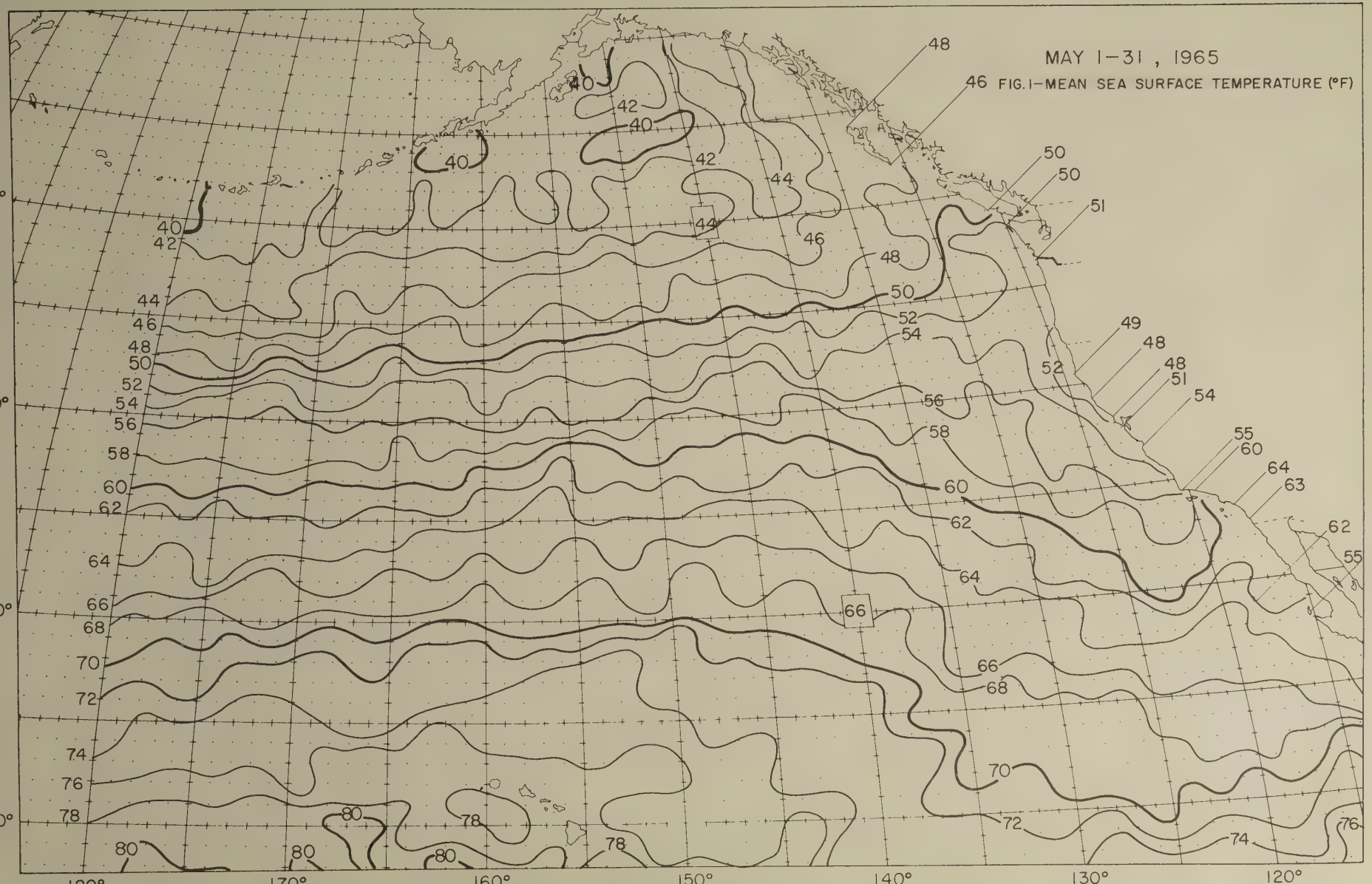
Figure 3.--Deviation of sea surface temperatures (°F) from those of May 1964. Hatched areas are colder than 1964.

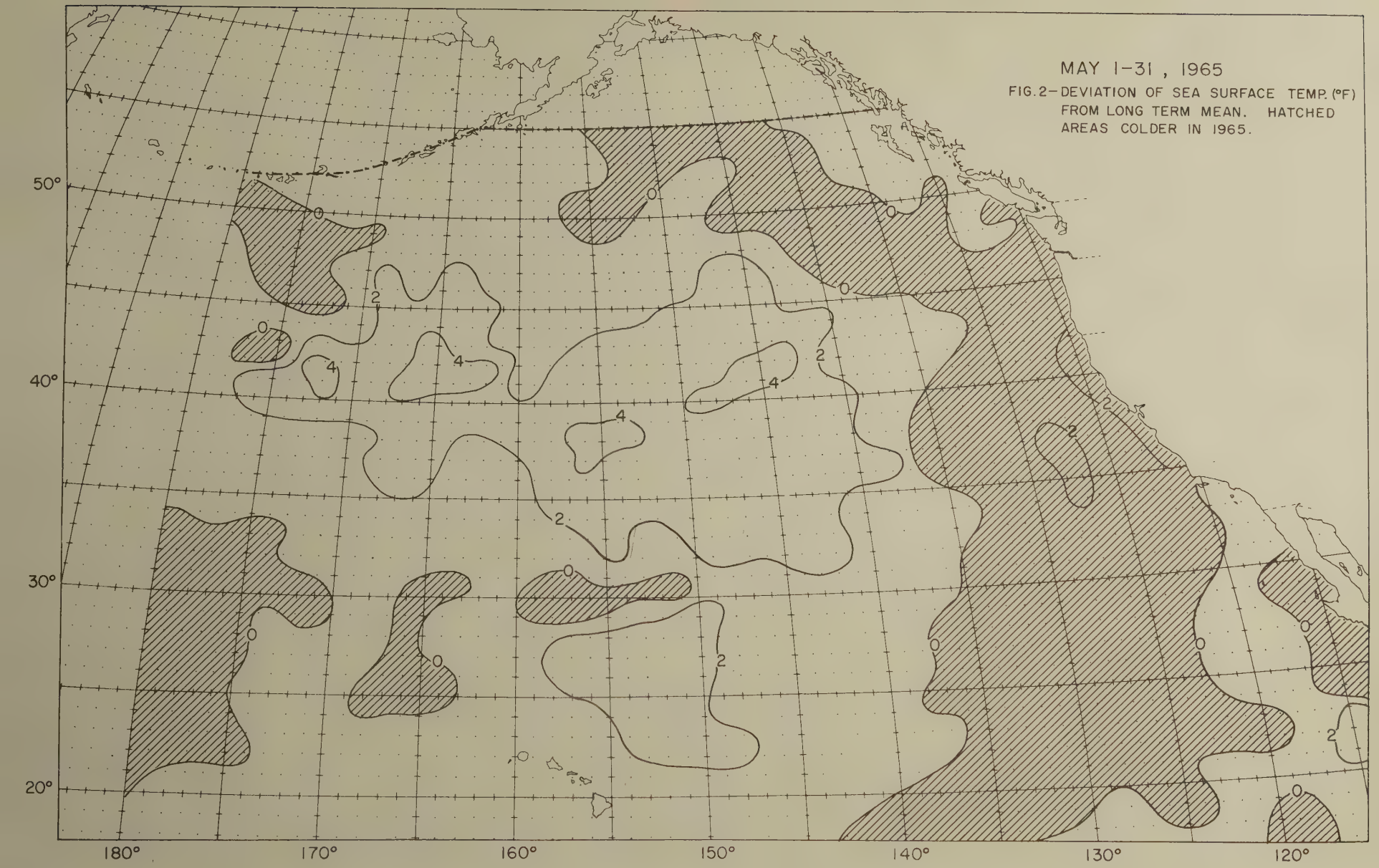
Figure 4.--Sea surface temperatures (°F) by 1-degree squares, approximately 2000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal stations.

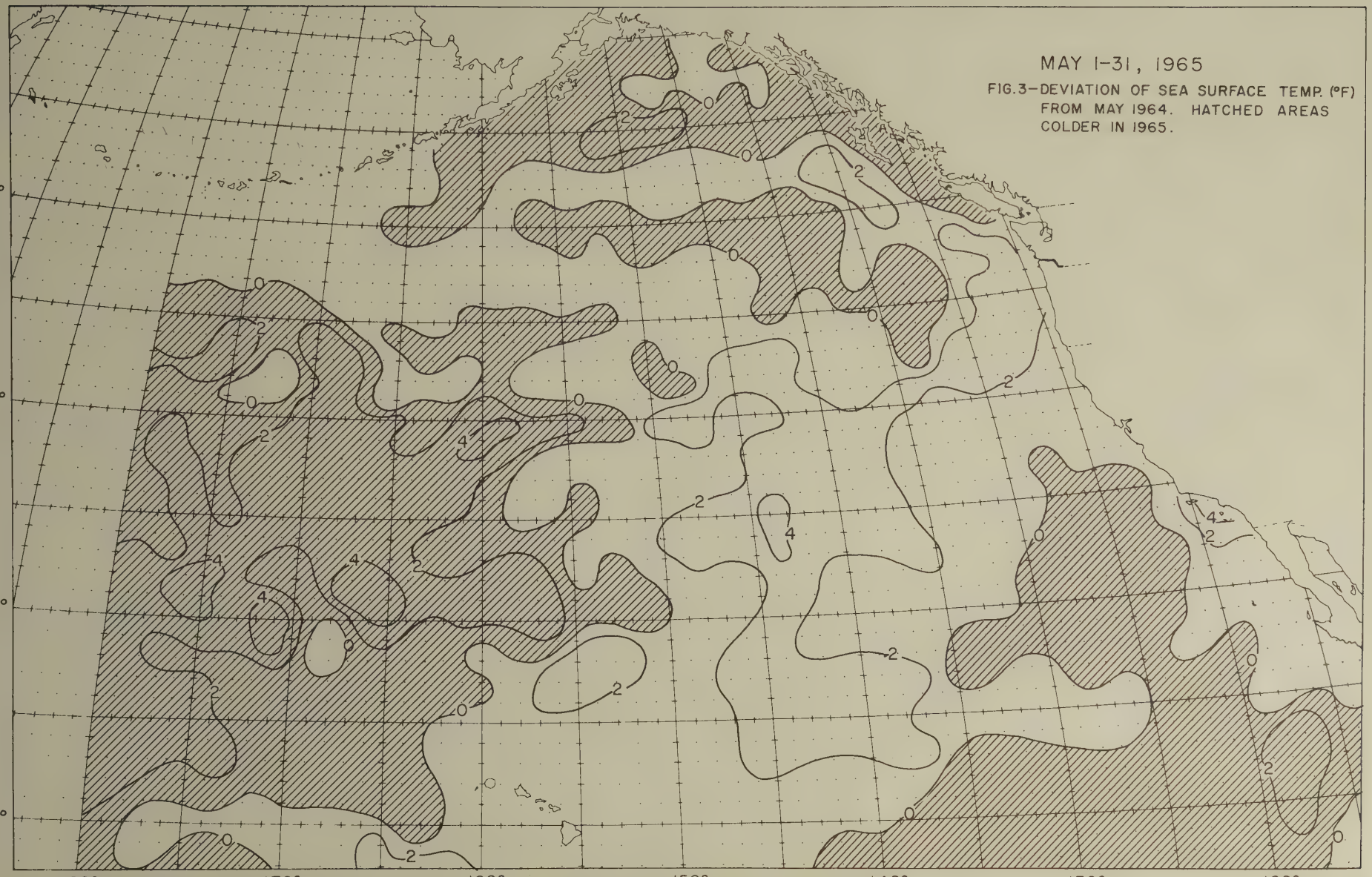
Figure 5.--Deviation of sea surface temperatures (°F) May 1965-May 1964 by 1-degree squares. Shaded areas are colder than 1964.

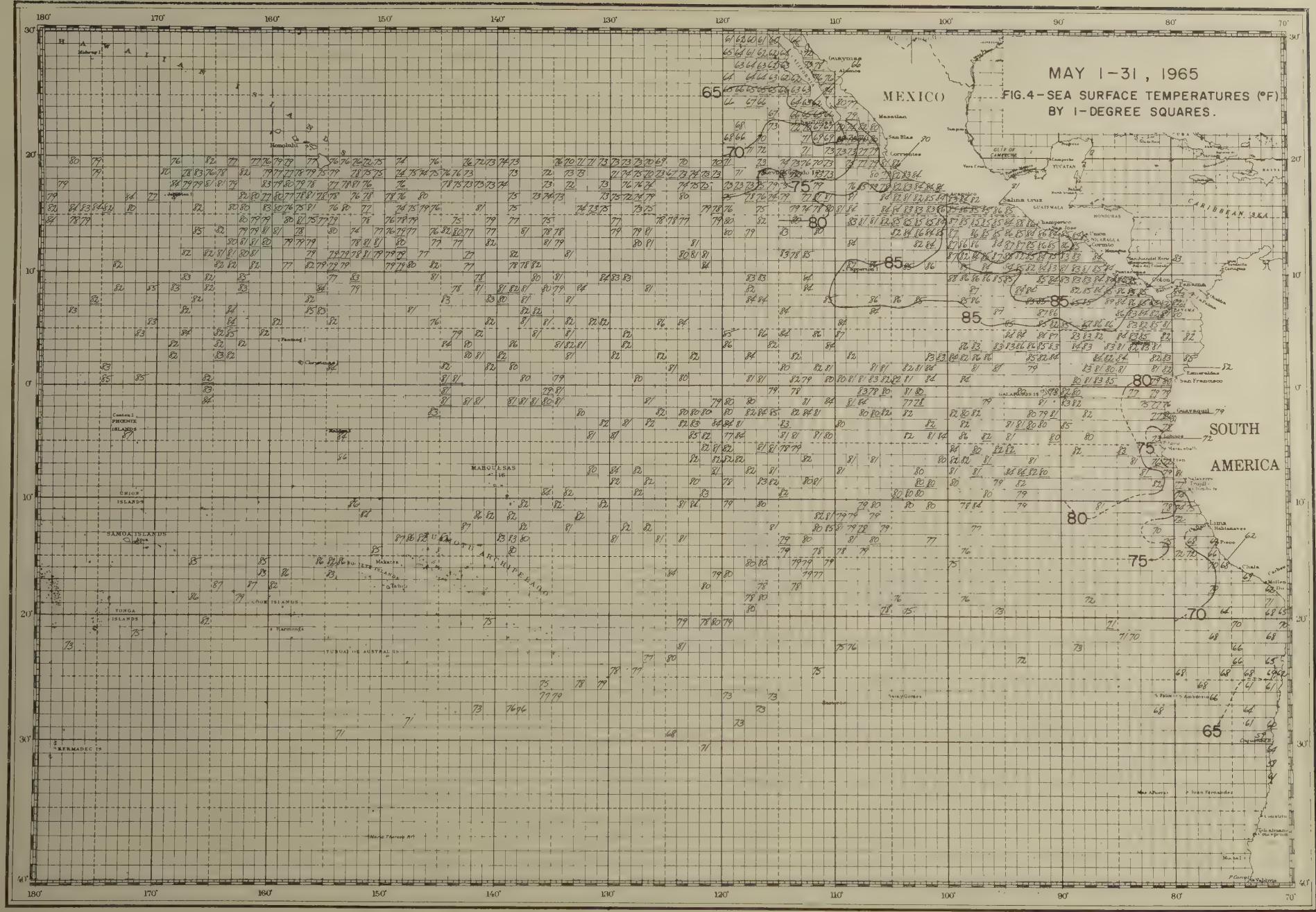
Figure 6.--Deviation of sea surface temperatures (°F) from 12-year mean (1947-1958) by 2-degree squares. Shaded areas are colder than 1964.

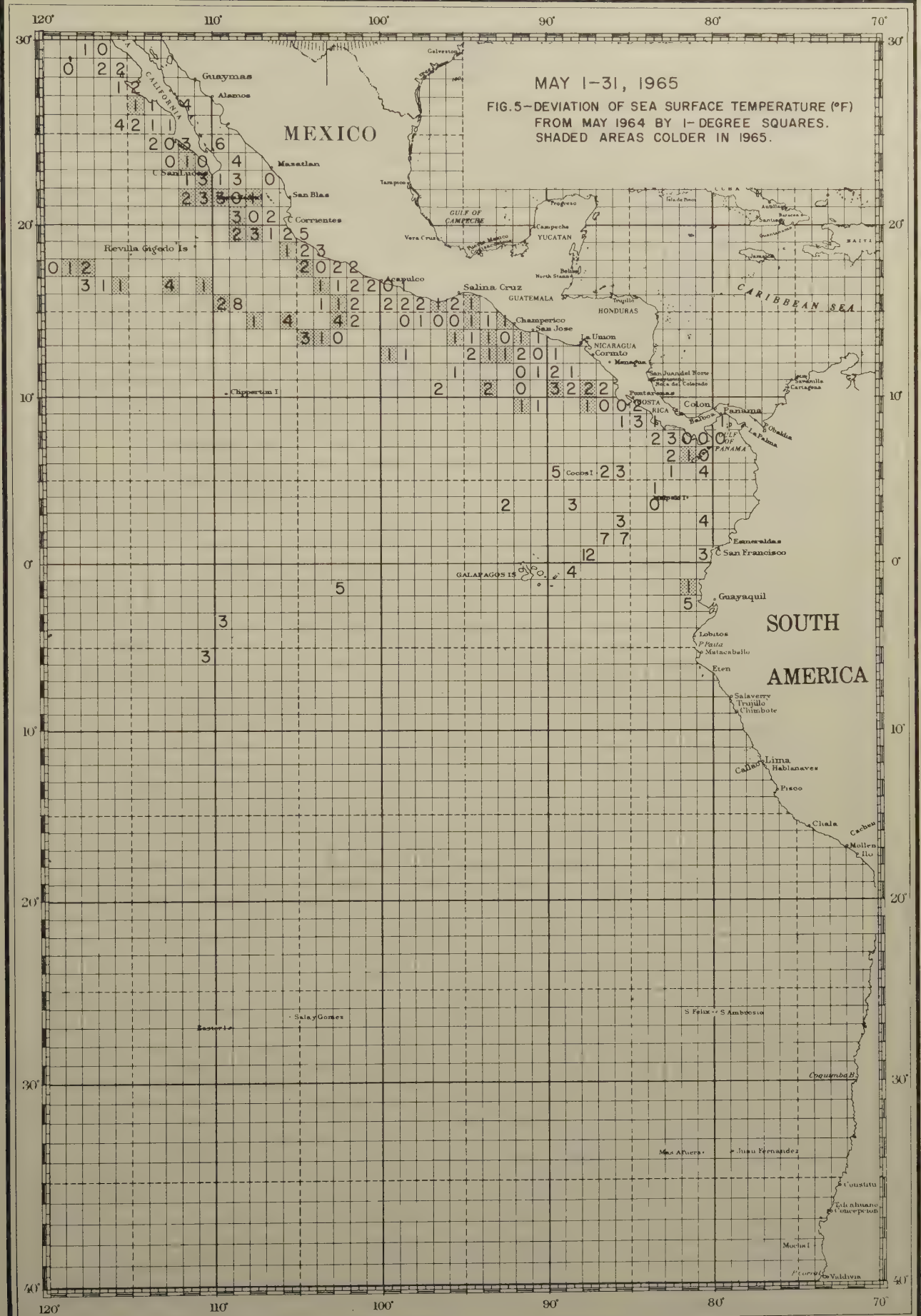
James A. Renner
Fishery Biologist (General)

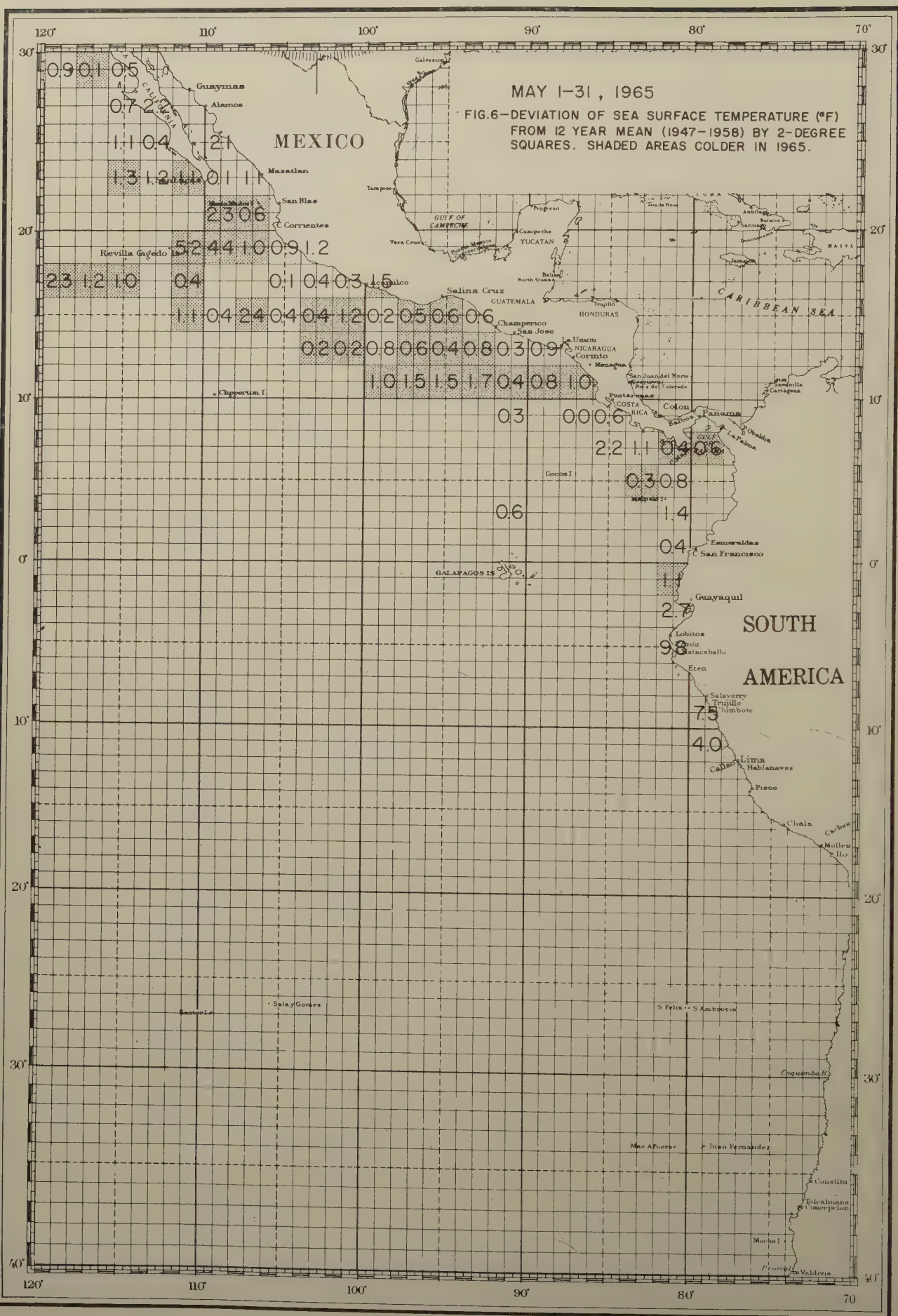

MAY 1–31 , 1965
FIG. 1–MEAN SEA SURFACE TEMPERATURE (°F)
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°


MAY 1-31 , 1965
FIG.2-DEVIATION OF SEA SURFACE TEMP.(°F) FROM LONG TERM MEAN. HATCHED AREAS COLDER IN 1965.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


MAY 1-31, 1965
FIG.3—DEVIATION OF SEA SURFACE TEMP. (°F) FROM MAY 1964. HATCHED AREAS COLDER IN 1965.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


MAY 1-31, 1965
FIG. 4 - SEA SURFACE TEMPERATURES (°F) BY 1-DEGREE SQUARES.
MEXICO
SOUTH AMERICA
HAWAIIAN ISLANDS
Honolulu
SAMOA ISLANDS
TONGA ISLANDS
UNION ISLANDS
PHOENIX ISLANDS
MARQUESAS
TUAMOTU ARCHIPELAGO
TUBUAI OR AUSTRAL IS.
Tahiti
Rarotonga
Guayaquil
Lima
Callao
Chala
Pisco
San Francisco
Esmeraldas
Salina Cruz
Acapulco
Manzanillo
Mazatlan
San Blas
Corrientes
Guaymas
Cabo San Lucas
Clipperton I.
Cocos I.
Malpelo I.
Galapagos Is.
Juan Fernandez
Mas Afuera
Mas a Tierra
Easter I.
Sala y Gomez
Kermadec Is.
Nicaragua
Honduras
Guatemala
Yucatan
Gulf of California
Caribbean Sea
Panama
Corinto
Amapala
Puerto Limon
Puerto Armuelles
Balboa
Cristobal
65
70
75
80
85


MAY 1–31, 1965
FIG. 5–DEVIATION OF SEA SURFACE TEMPERATURE (°F) FROM MAY 1964 BY 1-DEGREE SQUARES. SHADED AREAS COLDER IN 1965.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CALIFORNIA
GULF OF PANAMA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
YUCATAN
HAITI
JAMAICA
GALAPAGOS IS
Guaymas
Alamos
Masatlan
San Blas
Corrientes
Revilla Gigedo Is
Acapulco
Salina Cruz
Champerico
San Jose
La Union
Corinto
Managua
Chippertim I
Cocos I
Esmeraldas
San Francisco
Guayaquil
Lobitos
Talara
Eten
Salaverry
Trujillo
Chimbote
Callao
Lima
Hablanaves
Pisco
Chala
Mollendo
Ilo
Easter I
Sala y Gomez
S Felix
S Ambrosio
Juan Fernandez
Mas Afuera
Valdivia
Corrientes
Tampico
Vera Cruz
Campeche
Progreso
Galveston
Panama
Colon
Puntarenas
Trujillo
Barranquilla
Cartagena
Aruba
Curacao
Jamaica
Haiti
Santiago
Guantanamo
Bahia
Tela de Pinos
Puerto Mexico
Coatzacoalcos
Roca del Colorado
San Juan del Norte
Bocas del Toro
Balboa
La Palma
Chatham I
Malpelo I
Coquimbo
Constitu
Concepcion
Talcahuano
Mocha I
Pichilemu


MAY 1-31, 1965
FIG.6—DEVIATION OF SEA SURFACE TEMPERATURE (°F) FROM 12 YEAR MEAN (1947-1958) BY 2-DEGREE SQUARES. SHADED AREAS COLDER IN 1965.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
YUCATAN
GUATEMALA
HONDURAS
COSTA RICA
NICARAGUA
GALAPAGOS IS
Guaymas
Alamos
Masatlan
San Blas
Corrientes
Revilla Gigedo Is
Salina Cruz
Champerico
San Jose
Corinto
Managua
Chipperton I
Cocos I
Panama
Colon
Esmeraldas
San Francisco
Guayaquil
Lobitos
Eten
Salaverry
Trujillo
Chimbote
Lima
Callao
Hablanaves
Pisco
Chala
Mollendo
Ilo
Salas y Gomez
Easter Is
S Felix
S Ambrosio
Juan Fernandez
Mas Afuera
Valdivia
Corcovado
Constitucion
Talcahuano
Concepcion
Mocha I
Arauco
Coquimbo
Progreso
Campeche
Tampico
Vera Cruz
Galveston
Trujillo
Belize
Bocas del Toro
Cartagena
Barranquilla
Santiago
Jamaica
Haiti
Cuba
0.9 0.1 0.5
0.7 2.2
1.1 0.4 2.1
1.3 1.2 1.1 0.1 1.1
2.3 0.6
5.2 4.4 1.0 0.9 1.2
2.3 1.2 1.0 0.4 0.1 0.4 0.3 1.5
1.1 0.4 2.4 0.4 0.4 1.2 0.2 0.5 0.6 0.6
0.2 0.2 0.8 0.6 0.4 0.8 0.3 0.9
1.0 1.5 1.5 1.7 0.4 0.8 1.0
0.3 0.0 0.6
2.2 1.1 0.4 0.6
0.3 0.8
0.6 1.4
0.4
1.1
2.7
9.8
7.5
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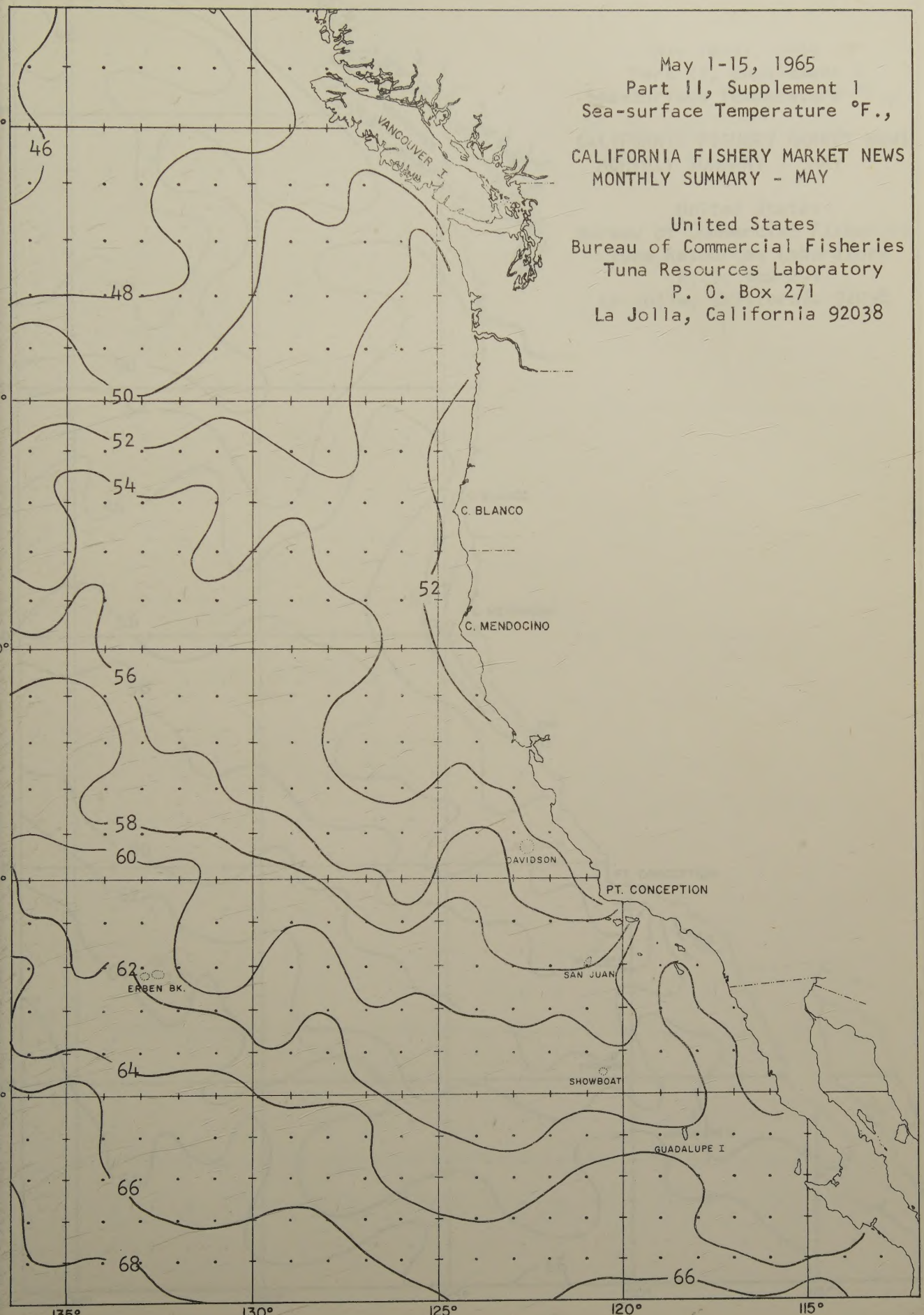
May 1-15, 1965
Part II, Supplement 1
Sea-surface Temperature °F.,
CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - MAY
United States
Bureau of Commercial Fisheries
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P. O. Box 271
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VANCOUVER I.
C. BLANCO
C. MENDOCINO
DAVIDSON
PT. CONCEPTION
SAN JUAN
ERBEN BK.
SHOWBOAT
GUADALUPE I
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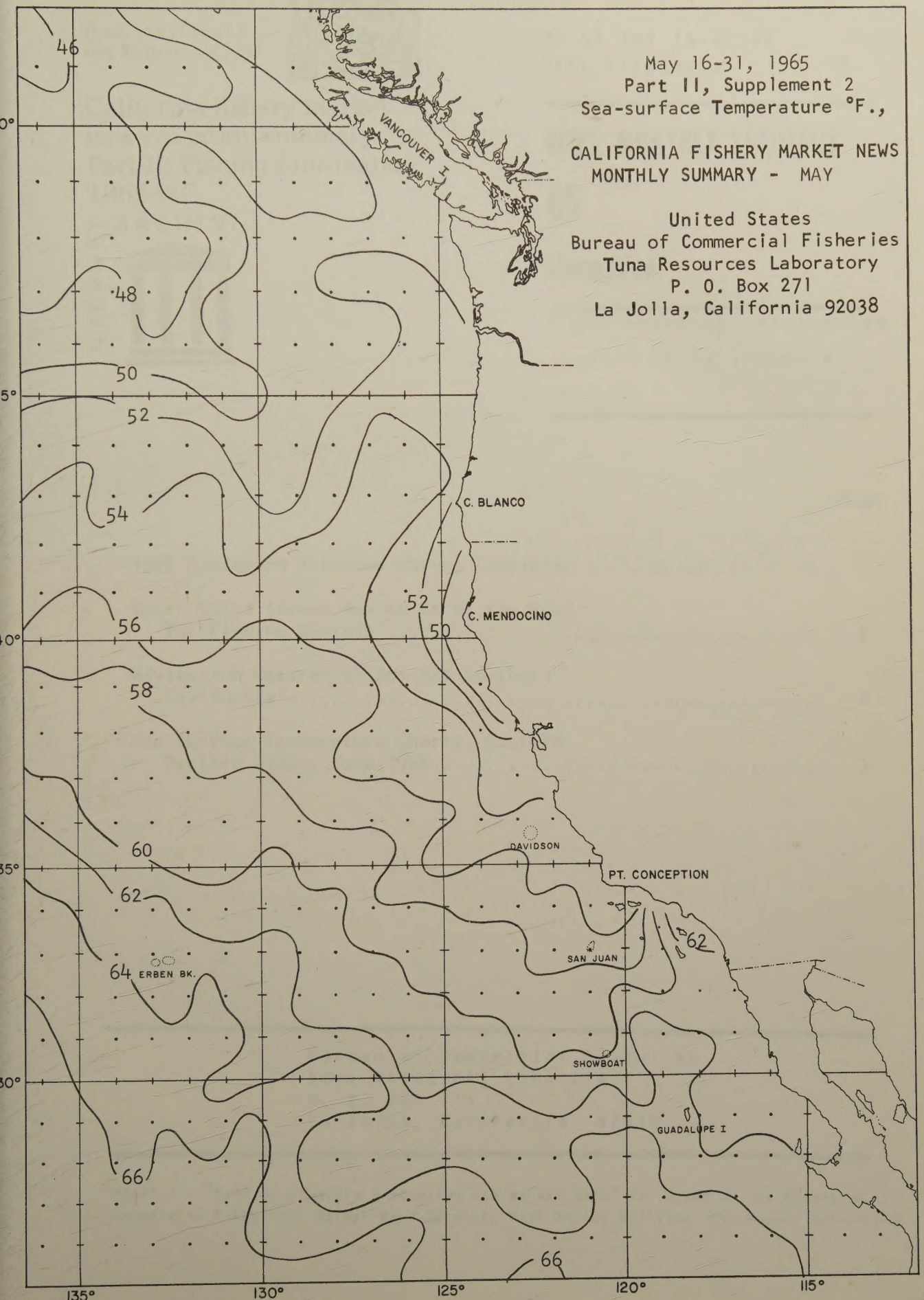
May 16-31, 1965
Part II, Supplement 2
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135°
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120°
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